



MAIL STOP APPEAL BRIEF - PATENTS

0512-1001

PATENT

IN THE U.S. PATENT AND TRADEMARK OFFICE BEFORE
THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of	Appeal No.
Marie Hélène CHASSAGNE et al	Conf. 6516
Application No. 10/031,489	Group 1761
Filed May 13, 2002	Examiner Sarah Kuhns
TITLE	CHEESE COATING COMPOSITION

APPEAL BRIEF

MAY IT PLEASE YOUR HONORS:

July 24, 2006

(i) **Real Party in Interest**

The real party in interest in this appeal is the current assignee, FROMAGERIES BEL of Paris, France.

(ii) **Related Appeals and Interferences**

None.

(iii) **Status of Claims**

Upon entry of the amendment filed with this appeal brief, claims 35-37, 39-54 and 56-70 will be pending in the present application. The appeal is taken from the final rejection of all the pending claims.

(iv) **Status of Amendments**

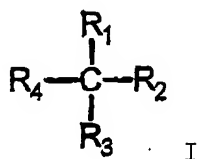
An Amendment after Final Rejection has been filed with this appeal brief to amend claims 35 and 52 to incorporate the subject matter of previous dependent claims 38 and 55,

respectively. These are the only two independent claims on appeal.

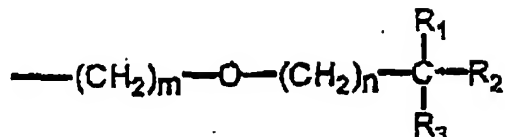
(v) **Summary of Claimed Subject Matter**

The invention is a coating for cheeses and a process for coating cheeses. It has been found that the product of esterification recited in the independent claims 35 and 52, provides a superior cheese coating with mechanical properties that are satisfactory not only at room temperature, but also at the relatively extreme temperatures that are likely to occur during the distribution of the cheese. The coating is neither brittle nor sticky. Moreover, the constituents of the coating are innocuous and do not migrate into the cheese (pg. 3, lines 10-20).

Independent claim 35 recites a process for coating cheeses. Independent claim 52 recites a coating for cheese compositions. Both independent claims 35 and 52 recite that the coating composition comprises from 60 to 100% by weight of the product of esterification of at least one fatty acid and at least one polyol containing a branched chain having at least 5 carbon atoms and at least 2 hydroxyl groups, wherein the polyol corresponds to the formula:



in which R_1 , R_2 , R_3 and R_4 , which may be identical or different, are selected from a C_1 - C_6 alkyl group or a C_1 - C_6 hydroxyalkyl group; or R_4 represents a group



in which m and n , which are identical or different, are integers integer from 1 to 6, R_1 , R_2 and R_3 are as defined above, provided that at least two of R_1 to R_4 are a C_1 - C_6 hydroxyalkyl group (page 5, lines 1-28).

Dependent claims 39 and 56 further characterize the recited polyols as being selected from the group consisting of pentaerythritol, neopentyl glycol, trimethylolethane, trimethylolpropane and dipentaerythritol (page 5, lines 30-34).

(vi) **Ground of Rejection to be Reviewed on Appeal**

The sole issue on appeal is whether claims 35-37, 39-54 and 56-70 are obvious in view of VOLPENHEIN (U.S. Patent No. 4,518,772), and excerpt from the *Handbook of Thermoset Plastics*, KESTER (U.S. Patent No. 4,960,600), MIKKELSEN et al. (U.S. Patent No. 5,516,536), and SEABORNE et al (U.S. Patent No. 4,810,534).

(vii) **Argument**

CLAIMS 35-37, 40-54, 66, AND 68-70 WOULD NOT HAVE BEEN OBVIOUS
BASED ON VOLPENHEIN IN VIEW OF THE HANDBOOK OF THERMOSET
PLASTICS, KESTER, MIKKELSEN ET AL., AND SEABORNE.

VOLPENHEIN discloses a process for producing polyol fatty acid polyesters. VOLPENHEIN teaches that the polyol fatty acid polyesters can be used in pharmaceutical applications, or as low-calorie fats in food products (col. 1, lines 14-20). However, VOLPENHEIN neither discloses nor suggests that the polyol fatty acid polyesters could or should be used in cheeses or in a coating composition of any sort. Moreover, VOLPENHEIN does not teach the recited amounts of polyol fatty acid polyesters of the claimed invention.

Thus, contrary to the statements in the Official Action (see Official Action mailed September 23, 2005, top of pg. 3), VOLPENHEIN does not teach that the polyol fatty acid polyesters can be utilized in a coating composition.

Furthermore, while VOLPENHEIN provides a laundry list of polyols that can be used to produce the disclosed polyol fatty acid polyesters, VOLPENHEIN does not teach that branched polyols, much less the particular class of branched polyols of the claimed invention, can be used to produce the fatty acid polyesters.

In an effort to remedy these fundamental shortcomings of VOLPENHEIN relative to the claims on appeal, the Official Action cites to KESTER. KESTER teaches a method for reducing the rate of moisture transmission into and out of foods comprising coating the surface of the foods. The KESTER method is described as being useful for preserving the crispness and thereby prolonging the shelf life of cereal and/or starch based snack foods.

In combining KESTER and VOLPENHEIN, the Official Action alleges that because VOLPENHEIN focuses on the efficient production of polyol fatty acid polyesters and does not specify with detail the different application of the polyol fatty acid polyesters, VOLPENHEIN would have "necessarily" referred to other publications relating to polyol fatty acid polyesters.

However, as noted above, VOLPENHEIN teaches that the polyol fatty acid polyesters can be used in particular pharmaceutical applications, or as low-calorie fats in food products (col. 1, lines 14-20). Thus, appellants believe that VOLPENHEIN was clearly aware of specific applications for the polyol fatty acid polyesters. Accordingly, appellants do not believe that VOLPENHEIN would have "necessarily" referred to other publications so as to modify the methods and amounts

taught by KESTER to modify the polyol fatty acid polyester of VOLPENHEIN.

Furthermore, even if one skilled in the art were to combine VOLPENHEIN and KESTER, one skilled in the art would still not obtain the claimed invention. The combination still does not teach a coated cheese or the polyols that are recited in the claims.

In a further effort to remedy the deficiencies of VOLPENHEIN and KESTER for reference purposes, the Official Action cites to MIKKELSEN. MIKKELSEN et al. disclose compositions for coating cheeses, which include glycerides of fatty acid and acetic acid (column 3, line 55 to column 4, line 1). Accordingly, MIKKELSEN et al. teach esters of glycerides that are actually compounds as described on page 2, line 1 to pg. 3, line 22 of the present application, which do not provide the mechanical resistance and organoleptic properties according to the present invention. Thus, appellants believe that MIKKELSEN actually leads one skilled in the art away from the claimed invention.

Moreover, even if one skilled in the art were to combine MIKKELSEN with VOLPENHEIN and KESTER, the publications would still not teach the claimed invention. For example, there still is no recognition of a coating for cheeses or method for producing cheeses with the recited amount and

product of esterification as provided for in the claimed invention.

The Official Action next turns to *The Handbook of Thermoset Plastics* in a further effort to reconstruct the claims. *The Handbook of Thermoset Plastics* discloses a neopentylglycol ester. However, *The Handbook of Thermoset Plastics* merely states that neopentyl glycol can be substituted for propylene glycol. *The Handbook of Thermoset Plastics* does not disclose or suggest the use of neopentylglycol esters in a cheese product or a coating composition. In fact, *The Handbook of Thermoset Plastics* does not teach whether the neopentyl glycols are toxic or non-toxic or provide an application for neopentyl glycol other than it may serve as a substitute for propylene glycol.

In support of this proposed combination, the Official Action states that VOLPENHEIN teaches that non-toxic glycols can be used in producing the polyol fatty acid polyesters. However, VOLPENHEIN already provides a laundry list of polyols that can be used to produce the disclosed polyol fatty acid polyesters (see, col. 3, and lines 20-53). VOLPENHEIN does not specifically suggest the use of branched polyols, much less the polyols with the recited chemical structure of the claimed invention, can or should be used to produce the fatty acid polyesters.

Lastly, the Final Rejection relies upon SEABORNE et al. for a teaching of a cheese coating. The coating compositions of SEABORNE et al essentially comprise a heat cured mixture of particular shellac alone or in combination with a second edible reactant member. The edible reactant member can be selected edible sources of polyphenolics, edible sources of benzaldehyde and its derivatives, acetylated monoglycerides, polyglycerol esters, straight chain monocarboxylic acids, monoglycerides, diacetyl tartaric acid esters of monoglycerides and mixtures thereof. However, as the primary composition of the coating is shellac, SEABORNE et al lead one skilled in the art away from the claimed invention.

Upon reviewing the cited publications, it is abundantly clear that the publications, alone or in combination, do not suggest a combination a coating for cheeses or process for coating cheeses, wherein a coating composition comprises from 60% to 100% by weight of a product of esterification of at least one fatty acid and at least one polyol the chemical formula recited in the claims. In particular, none of the publications, alone or in combination, even teach a process or coating with a product of esterification with polyols of the recited formula set forth in independent claims 38 and 52.

Rather, the Official Action attempts to reconstruct the claimed invention by selectively pointing to teachings from each of the five above-identified publications. Of course, the fact

that the five above-identified publications can be reconstructed in this manner does not mean the claimed invention itself is obvious. In light of the lack of a motivation, suggestion or teaching of the desirability of making the claimed process and coating composition, appellant believes that the publications fail to render obvious the claimed invention.

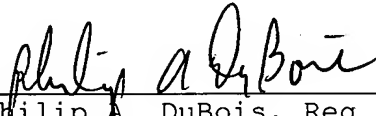
CLAIMS 39 AND 56 ARE INDEPENDENTLY PATENTABLE.

Even if the proposed combination of references were found to teach to the recited coating composition comprising from 60% to 100% by weight of a product of esterification of at least one fatty acid and at least one polyol with the formula recited in the independent claims, there is no recognition in the proposed combination of a coating composition as recited in the claims with polyols selected from pentaerythritol, neopentyl glycol, trimethylolethane, trimethylolpropane and dipentaerythritol. Thus, it is believed that dependent claims 39 and 56 are independently patentable.

From the foregoing discussion, it is believed that the rejections of claims 35-37, 39-54, and 56-70 are improper and should be reversed. Such action is accordingly respectfully requested.

Respectfully submitted,

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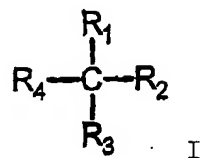
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(viii) **Claims Appendix**

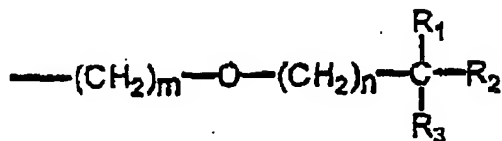
1-34. (canceled)

35. (currently amended) A process for coating cheeses, wherein a coating composition is applied onto whole cheeses or portions of cheese, ~~which~~ wherein said coating composition comprises from 60% to 100% by weight of a product of esterification of at least one fatty acid and at least one polyol containing a branched chain having at least 5 carbon atoms and at least 2 OH groups, and

wherein the polyol containing a branched chain corresponds to the general formula:



in which R_1 , R_2 , R_3 and R_4 , which may be identical or different, are selected from a C_1 - C_6 alkyl group or a C_1 - C_6 hydroxyalkyl group; or R_4 represents a group



m and n , which are identical or different, being an integer from 1 to 6, R_1 , R_2 and R_3 being as defined above, provided that at least two from R_1 to R_4 are a C_1 - C_6 hydroxyalkyl group.

36. (canceled).

37. (previously presented) The process as claimed in claim 35, wherein the polyol containing a branched chain comprises a neopentyl group.

38. (canceled)

39. (previously presented) The process as claimed in claim 35, wherein the polyol is selected from pentaerythritol, neopentyl glycol, trimethylolethane, trimethylolpropane and dipentaerythritol.

40. (previously presented) The process as claimed in claim 35, wherein the fatty acids consist of at least one first fatty acid of a group (A) and at least one fatty acid of a second group (B), the group (A) having a melting range at least 40°C higher than that of the group (B).

41. (previously presented) The process as claimed in claim 35, wherein the fatty acids (A) are saturated or unsaturated fatty acids having more than 12 carbon atoms.

42. (previously presented) The process as claimed in claim 41, wherein the fatty acids (A) are selected from hydrogenated palm and rapeseed fatty acids.

43. (previously presented) The process as claimed in claim 40, wherein the fatty acids (B) are saturated or unsaturated fatty acids having from 1 to 12 carbon atoms.

44. (previously presented) The process as claimed in claim 43, wherein the fatty acids (B) are selected from hydrogenated copra fatty acids, octanoic acid, decanoic acid and mixtures thereof.

45. (previously presented) The process as claimed in claim 44, wherein the fatty acids (A) are present at 50 to 100% by weight relative to the total weight of the fatty acids, and the fatty acids (B) are present at 0 to 50% by weight relative to the total weight of the fatty acids.

46. (previously presented) The process as claimed in claim 40, wherein the B/A molar ratio is between 0.8 and 1.5.

47. (previously presented) The process as claimed in claim 35, wherein the coating comprises at least one polycarboxylic acid esterified with the polyol via one or two of its carboxylic functions.

48. (previously presented) The process as claimed in claim 47, wherein the dicarboxylic acid is selected from sebacic acid, adipic acid, succinic acid, malic acid and oxalic acid, in a proportion of between 0 and 20% by weight, relative to the total weight of the coating.

49. (previously presented) The process as claimed in claim 35, wherein the alcohol function to acid function ratio is greater than 1, and advantageously between 1 and 2.

50. (previously presented) The process as claimed in claim 47, wherein the coating composition comprises from 0 to

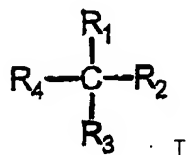
20% by weight of polycarboxylic, in particular dicarboxylic, acid relative to the total weight of the coating composition.

51. (previously presented) The process as claimed in claim 35, wherein the coating composition contains a plasticizer compatible with foodstuffs.

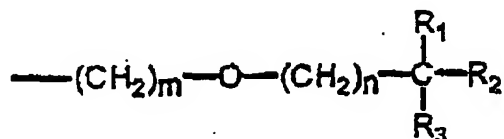
52. (currently amended) A coating composition for cheeses, comprising from 60 to 100% by weight of the product of esterification of a polyol containing a branched chain having at least 5 carbon atoms and at least 2 OH groups and

- of at least one fatty acid of a first group (A), and
 - of at least one fatty acid of a second group (B),
- these fatty acids of the group (A) having a melting range at least 40°C higher than that of the fatty acids of the group (B), and

wherein the polyol containing a branched chain corresponds to the general formula:



in which R_1 , R_2 , R_3 and R_4 , which are identical or different, are selected from a C_1 - C_6 alkyl group or a C_1 - C_6 hydroxyalkyl group; or R_4 represents a group



m and n, which are identical or different, being an integer from 1 to 6, R_1 , R_2 and R_3 being as defined above, provided that at least two of R_1 to R_4 are a C_1 - C_6 hydroxyalkyl group.

53. (canceled)

54. (previously presented) The composition as claimed in claim 52, wherein the polyol containing a branched chain comprises a neopentyl group.

55. (canceled)

56. (previously presented) The composition as claimed in claim 52, wherein the polyol is selected from pentaerythritol, neopentyl glycol, trimethylolethane, trimethylolpropane and dipentaerythritol.

57. (previously presented) The composition as claimed in claim 52, wherein the fatty acids (A) are saturated or unsaturated fatty acids having more than 12 carbon atoms.

58. (previously presented) The composition as claimed in claim 57, wherein the fatty acids (A) are selected from hydrogenated palm and rapeseed fatty acids.

59. (previously presented) The composition as claimed in claim 52, wherein the acids (B) are saturated or unsaturated acids having from 1 to 12 carbon atoms.

60. (previously presented) The composition as claimed in claim 59, wherein the acids (B) are selected from hydrogenated

copra fatty acids, octanoic acid, decanoic acid and mixtures thereof.

61. (previously presented) The composition as claimed in claim 52, wherein (A) is present at from 50 to 75% by weight relative to the total weight of the fatty acids and (B) is present at 50 to 100% by weight relative to the total weight of the fatty acids.

62. (previously presented) The composition as claimed in claim 52, wherein the B/A molar ratio is between 0.8 and 1.5, preferably between 1 and 1.3.

63. (previously presented) The composition as claimed in claim 52, wherein it also comprises from 0 to 20%, by weight of a polycarboxylic acid, in particular a dicarboxylic acid, the dicarboxylic acid being present in free form and/or in a form esterified with the polyol.

64. (previously presented) The composition as claimed in claim 52, wherein the number of alcohol functions/number of acid functions ratio is greater than 1, advantageously between 1 and 2.

65. (previously presented) The composition as claimed in claim 52, wherein it also comprises from 0 to 20%, advantageously from 3 to 10%, by weight of a plasticizer compatible with foodstuffs.

66. (previously presented) A process for preparing a coating composition as claimed in claim 52, wherein an

esterification reaction is carried out between at least one polyol with at least one fatty acid of a first group (A) and at least one acid of a second group (B).

67. (previously presented) A coated cheese comprising a coating obtained according to the process of claim 35.

68. (previously presented) The process according to claim 51, wherein said plasticizer is a copolymer of butyl acrylate or butyl methacrylate and of ethylene, or a copolymer of vinyl acetate and of ethylene acetate.

69. (previously presented) The process according to claim 66, wherein a plasticizer is present and said plasticizer is a copolymer of butyl acrylate or butyl methacrylate and of ethylene, or a copolymer of vinyl acetate and of ethylene acetate.

70. (previously presented) The process according to claim 66, wherein the acid is selected from the group consisting of polycarboxylic acid and dicarboxylic acid.

(ix) **Evidence Appendix**

None.

(x) **Related Proceedings Appendix**

None.